Title: ELECTRONIC ASSEMBLY WITH SOLDERABLE HEAT SINK AND METHODS OF MANUFACTURE

REMARKS

Applicant has carefully reviewed and considered the Office Action mailed on January 16, 2003, and the document cited therewith.

Claims 2, 14, and 32 are amended. As a result, claims 1-15 and 17-41 are now pending in this application.

Amendments to Claims 2, 14, and 32

In claim 2, the language "is straight and cylindrical and" has been added. Support for adding the language "straight and cylindrical" can be found, for example, in the original specification in FIGS. 5-8 (mounting pin 510).

In claims 14 and 32, the word "claim" has been inserted.

All of the above-mentioned amendments to claims 2, 14, and 32 are supported by the application as originally filed. No new matter has been added.

§112 Rejection of the Claims

Claim 16 was rejected under 35 USC § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which Applicant regards as the invention.

Applicant cancelled claim 16 in the supplemental amendment filed on December 6, 2002.

§103 Rejection of the Claims

Claims 1-15 and 17-41 were rejected under 35 U.S.C. §103(a) as being unpatentable over Trunk et al. (U.S. Patent No. 4,945,401).

Trunk discloses a heat dissipator having a pair of legs 54 (FIG. 1), each of which is bent at an angle of approximately 45 degrees (col. 3, lines 58-60). The ends of legs 54 each define a flat tab 62 bent at 135 degree angles to the outwardly flaring portions of the respective leg 54 (col. 3, line 68 through col 4, line 2). The tabs 36, 62 fit into slots in a printed circuit board (col. 4, lines 22-23).

Trunk fails to disclose a heat sink having "at least one mounting pin". A "pin" is geometrically and functionally different from a "tab". For example, as defined in The Random House Dictionary of the English Language, College Edition, Random House, New York, 1968, one of the listed definitions of "pin" is "a short cylindrical rod or tube". As illustrated in FIGS. 5-8, for example, of Applicant's drawings, mounting pins 510 are depicted as short cylindrical rods.

In contrast, a "tab" is defined in the above-cited dictionary as "a small flap, strap, loop, or similar appendage". The same dictionary defines a "flap" as "something broad and flexible, or flat and thin that hangs loosely, attached at one side only". As illustrated in every figure of Trunk, the legs 54 are flat and angled, and they each end in a "flat tab 62" (col. 4, line 1).

Thus, Applicant asserts that the flat, angled legs 54 of Trunk, ending in flat tabs 62, are structurally distinguishable from the "at least one mounting pin" recited in independent claim 1 (and in each of applicant's other independent claims 13, 25, and 31). As commonly defined, and as supported by Applicant's original disclosure (e.g. FIGS. 5-8), a "pin" is a "short cylindrical rod or tube". A cylinder is straight and not angled. Further, there is apparently no motivation in Trunk for using a "pin", because Trunk emphasizes in several places that mounting legs 54 are "angled" and/or "flared" in order to provide the asserted advantages over prior art devices. See, for example, col. 1, line 60-62; col. 2, lines 5, 15, 26, and 30. No suggestion could be found in Trunk to support the use of "pins".

Applicant asserts that the use of "pins", as opposed to angled legs ending in tabs, provides advantages over prior heat sinks, such as Trunk's. Such advantages include, but are not limited to, consuming less "real estate" on a printed circuit board.

For the above reasons, Applicant respectfully asserts that independent claim 1 is patentable over Trunk.

Applicant's independent claims 13, 25, and 31, which each contain the phrase "at last one mounting pin", should also be patentable over Trunk, for the reasons presented above.

Thus, independent claims 1, 13, 25, and 31, and the claims dependent therefrom, should be found to be allowable over Trunk, and Applicant respectfully requests that the rejection of claims 1-15 and 17-41 as unpatentable under 35 U.S.C. §103(a) over Trunk should be withdrawn.

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Additional Elements and Limitations

Applicant considers additional elements and limitations of claims 1-15 and 17-41 to further distinguish over the cited references, and Applicant reserves the right to present arguments to this effect at a later date.

Conclusion

Applicant respectfully submits that claims 1-15 and 17-41 are in condition for allowance and notification to that effect is earnestly requested. The Examiner is invited to telephone Applicant's attorney Kash Nama at 603-888-7958 to facilitate prosecution of this application.

If necessary, please charge any additional fees or credit overpayment to Deposit Account No. 19-0743.

Respectfully submitted,

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